Comparison of Dietary Diversity and its association with Nutritional Status between Women of childbearing age and non-breasting feeding Children (2-5 years) in rural Kenya

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Introduction

Dietary diversity is recommended to obtain good nutritional status and health. Studies have found dietary diversity to be proxy indicator for nutritional status. Dietary diversity could be affected by intra-household food distribution, yet, the impact on the association between the diversity score and nutritional status of women and children is unknown. This question has to be addressed in order to determine whether the dietary diversity of the mother would reflect the dietary diversity and nutrition status of their children.

Objective

To study the differences in dietary diversity and its association with nutritional status between women (of child bearing age) and their children (2-5 years) in rural Kenya.

Methods

- Cross sectional study 113 mother/child pair in Mbooni division, Makueni district, Kenya
- 24hr-recall on two non–consecutive days
- Using 13 food groups:
  - 10g and 15g restriction applied for children and mother respectively
- ANOVA- compare means: DDS and energy intake in malnourished groups
- Paired t-test –differences in DDS between mother/child pairs
- Pearson's correlation – associations DDS and nutritional status (NS)
- Z –transformation method by Fisher – differences in associations

Results

- Starchy staples dominated diets
- As dietary diversity increases, more mothers and children consumed foods from the following groups:

  - Legumes and Nuts, Diary, Vitamin A-rich Dark Green Leafy Vegetables and Other Fruits and Vegetables.

- 50% of the children were stunted, 25% underweight and 5% wasted.
- Children (DDS-10g=3.0±1.2
- DDS was positively and significantly associated with weight-for-age z-scores for children (r=0.23; p=0.02)

- Few mothers were underweight, below one third overweight and 8% obese.
- Mothers (DDS-15g = 3.0±1.2)
- DDS was positively and significantly associated with BMI for women (r=0.23; p=0.02) (Table 1)
- DDS did not differ between mother and children (p=0.66).
- No difference in mean DDS and energy intake in Malnourished mother and children
- Differences in association DDS and NS – not different (t=0.0, outside critical region(-∞, -1.96) and (1.96, ∞) between mother and children

Table 1: Association[1] between Dietary Diversity Score and Nutritional Status of Children (2-5 years) and Women(child bearing age)

	Dietary Diversity Score	
	r	*P*-value
Children		
BMI-for-age Z-score	0.11	0.25
WAZ[2]	0.23	**0.02***
HAZ	0.16	0.09
WHZ	0.13	0.19
Women		
BMI[2]	0.23	**0.02***

[1] adjusted for energy
[2] indicates correlation significant at p<0.05*

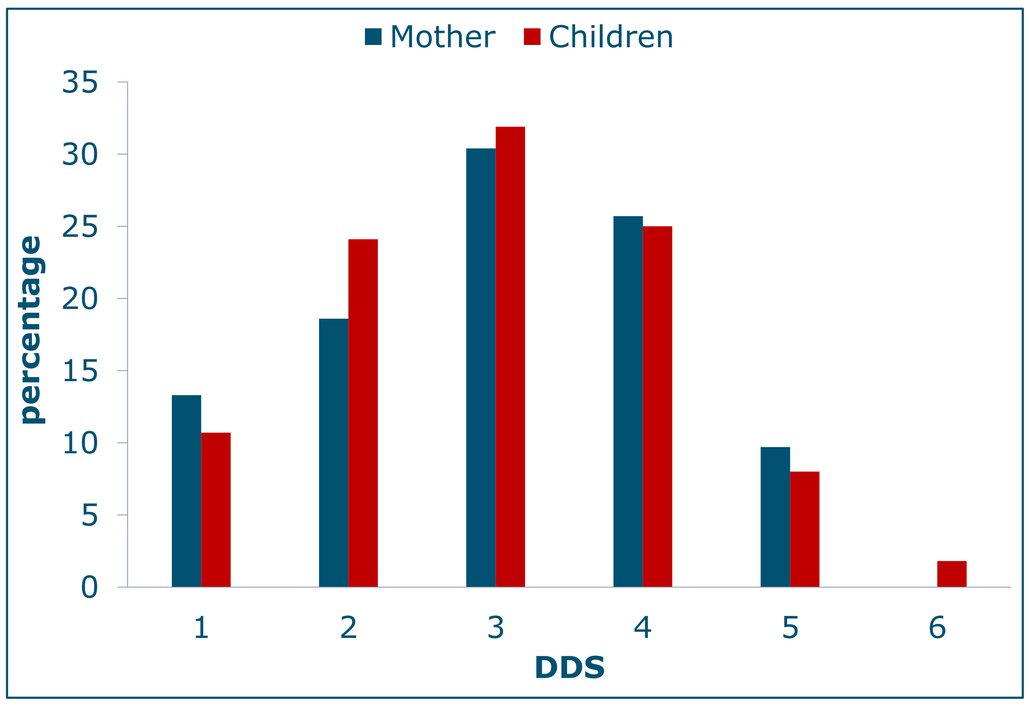

Fig:1 Dietary Diversity of Kenyan rural Women (of child bearing age) and their Children (2-5years)

Conclusions

- Dietary diversity of both mothers and children was low.
- Dietary diversity score could be an indicator of nutritional status for both mothers and children.
- Dietary diversity of women can be measured to obtain information on diet quality and nutritional status of themselves and of their children.

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